

State: **Victoria**

Depth logged:	2258.2 m To 3363.1 m	Mag decl:	13.09°	Other services:
Date logged:	5-May-05 To 13-May-05	Mag dip:	-69.03°	Directional Drilling, D&I

<p style="text-align: center;"><b>DISCLAIMER</b></p> <p>THE USE OF AND RELIANCE UPON THIS RECORDED-DATA BY THE HEREIN NAMED COMPANY (AND ANY OF ITS AFFILIATES, PARTNERS, REPRESENTATIVES, AGENTS, CONSULTANTS AND EMPLOYEES) IS SUBJECT TO THE TERMS AND CONDITIONS AGREED UPON BETWEEN SCHLUMBERGER AND THE COMPANY, INCLUDING: (a) RESTRICTIONS ON USE OF THE RECORDED-DATA; (b) DISCLAIMERS AND WAIVERS OF WARRANTIES AND REPRESENTATIONS REGARDING COMPANY'S USE OF AND RELIANCE UPON THE RECORDED-DATA; AND (c) CUSTOMER'S FULL AND SOLE RESPONSIBILITY FOR ANY INFERENCE DRAWN OR DECISION MADE IN CONNECTION WITH THE USE OF THIS RECORDED-DATA.</p>		
<p><b>OTHER SERVICES FOR RUN1</b></p> <p>Directional Drilling Directional Surveys</p>	<p><b>OTHER SERVICES FOR RUN2</b></p> <p>Directional Drilling Directional Surveys</p>	<p><b>OTHER SERVICES FOR RUN</b></p>
<p><b>REMARKS: RUN NUMBER 1</b></p> <p>8-1/2 in. hole was drilled from 2270.5 m to 2751.0 m MD.</p> <p>Milling run 2258.2 to 2270.5 m MD. Directional Data only.</p> <p>Depth is referenced to Driller's Depth.</p> <p>Gamma Ray corrected for Tool Size, Bit Size and Mud Weight</p> <p>Mud Type is KCl/PHPA/Glycol.</p> <p>POOH due to bit change.</p>	<p><b>REMARKS: RUN NUMBER 2</b></p> <p>8-1/2 in. hole was drilled from 2751.0 m to 3381.0 m MD.</p> <p>Depth is referenced to Driller's Depth.</p> <p>Gamma Ray corrected for Tool Size, Bit Size and Mud Weight</p> <p>Mud Type is KCl/PHPA/Glycol.</p> <p>POOH due to TD of BMA A10A.</p>	<p><b>REMARKS: RUN NUMBER</b></p>

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EQUIPMENT DESCRIPTION

RUN1

RUN2

RUN

DOWNHOLE EQUIPMENT

DOWNHOLE EQUIPMENT

6-3/4 in. PowerPulse\*  
MDC: Z408  
MEC: 1540  
MDI: 1556  
MGR: 146AA  
DHS: V8.0B96

22.89

D&I

GR

18.60

17.96

6-5/8 in. NM Pony  
S/N: ANA98-007

14.45

6-1/2 in. Float Sub  
S/N: ASQ050427

11.81

8-3/8 in. NM Roller Reamer  
S/N: GU2317R

11.18

7 in. PowerPak\* Motor  
A700GT 7:8  
S/N: N7310  
1.5 deg. Bent Housing  
8-3/8 in. Motor Sleeve

9.19

6-3/4 in. PowerPulse\*  
MDC: Y927  
MEC: 1533  
MDI: 1565  
MGR: 565-AA  
DHS: V8.0B96

22.88

D&I

GR

18.56

17.91

6-5/8 in. NM Pony  
S/N: ANA98-007

14.46

6-1/2 in. Float Sub  
S/N: ASQ050427

11.82

8-3/8 in. NM Roller Reamer  
S/N: GU2317R

11.19

7 in. PowerPak\* Motor  
A700GT 7:8  
S/N: N7311  
1.59 deg. Bent Housing  
8-3/8 in. Motor Sleeve

9.20



Smith PDC Bit  
OD: 8–1/2 in.  
S73PX S/N: JT6968

Hycalog PDC Bit  
OD: 8–1/2 in.  
RSX163 S/N: 209694

Maximum string diameter 8.50 in.  
All lengths in Meters

Maximum string diameter 8.50 in.  
All lengths in Meters

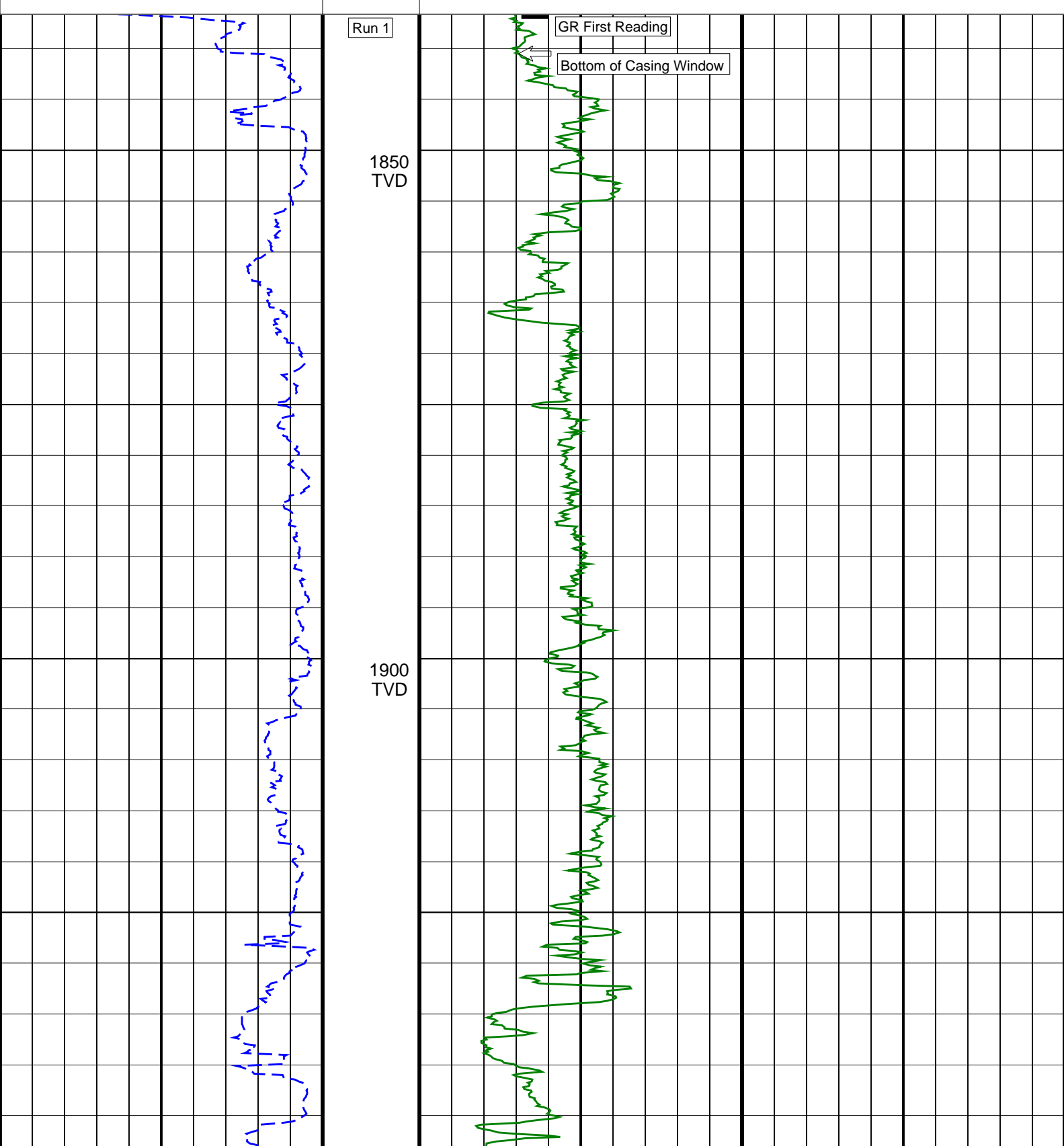
# Bit Run Summary

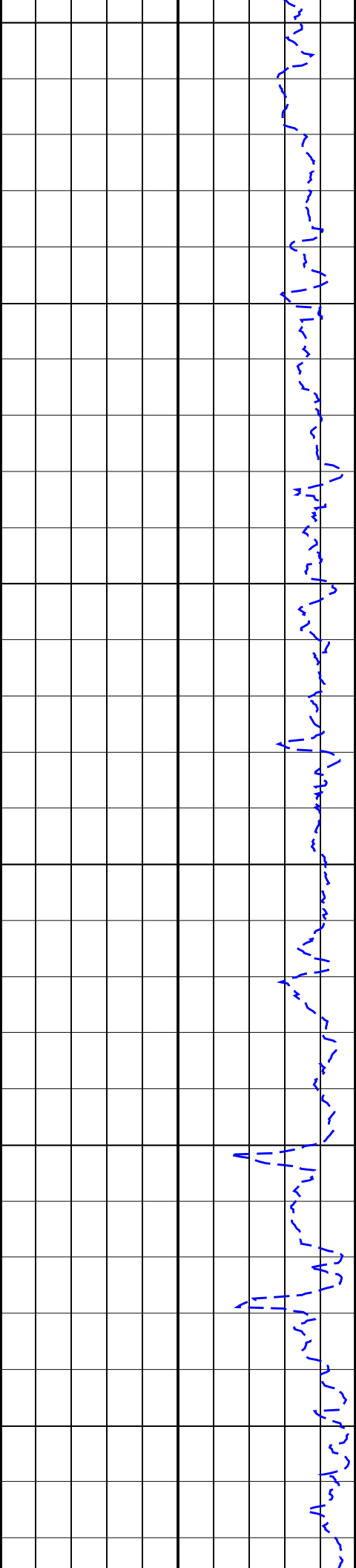
Run number		1	2							
Bit size	in.	8.5	8.5							
Bit start depth	m	2258.2	2751.0							
Bit end depth	m	2751.0	3381.0							
Top interval logged	m	2258.2	2733.04							
Bottom interval logged	m	2733.0	3363.1							
Begin log: time		22:30	13:10							
Begin log: date		5–May–05	9–May–05							
End log: time		16:45	3:30							
End log: date		8–May–05	13–May–05							
Mud data										
Depth	m	2738.0	3362.0							
Type		KCl/PHPA/Gly.	KCl/PHPA/Gly.							
Mud weight	ppg	10.00	10.10							
Solids	%	7.7	8.8							
Chlorides	mg/L	41,800	40,000							
Rm		N/A	N/A							
Rmf		N/A	N/A							
Rmc		N/A	N/A							
Potassium	%	4.2	4.2							
Environmental data										
GR										
Mud weight	ppg	10.00	10.10							
Bit size	in.	8.5	8.5							
Resistivity										
Neutron porosity										
Hole Size										
Mud weight										
Temperature										
Mud salinity										
Formation salinity										
Recording rate 1	SEC	4.19	4.19							
Recording rate 2	SEC	N/A	N/A							
Filtering GR		3 pt.	3 pt.							
Filtering density		N/A	N/A							
Filtering Neutron		N/A	N/A							
Company representative		W. Westman	J. MacKinnon	G. Campbell	B. Davis					
Anadrill personnel		D. Hastie	L. Johnston	C. Cocks	D. Hay					

# BMA A10A RT 1:500 TVD

IDEAL Version: ID9\_1C\_02 <TVD> Vertical Scale: 1:500 Graphics File Created: 15-May-2005 02:58

ROP\*5 (ROP5) (M/HR) 0 200 GR(TM) (GRM1) (GAPI) 0 400

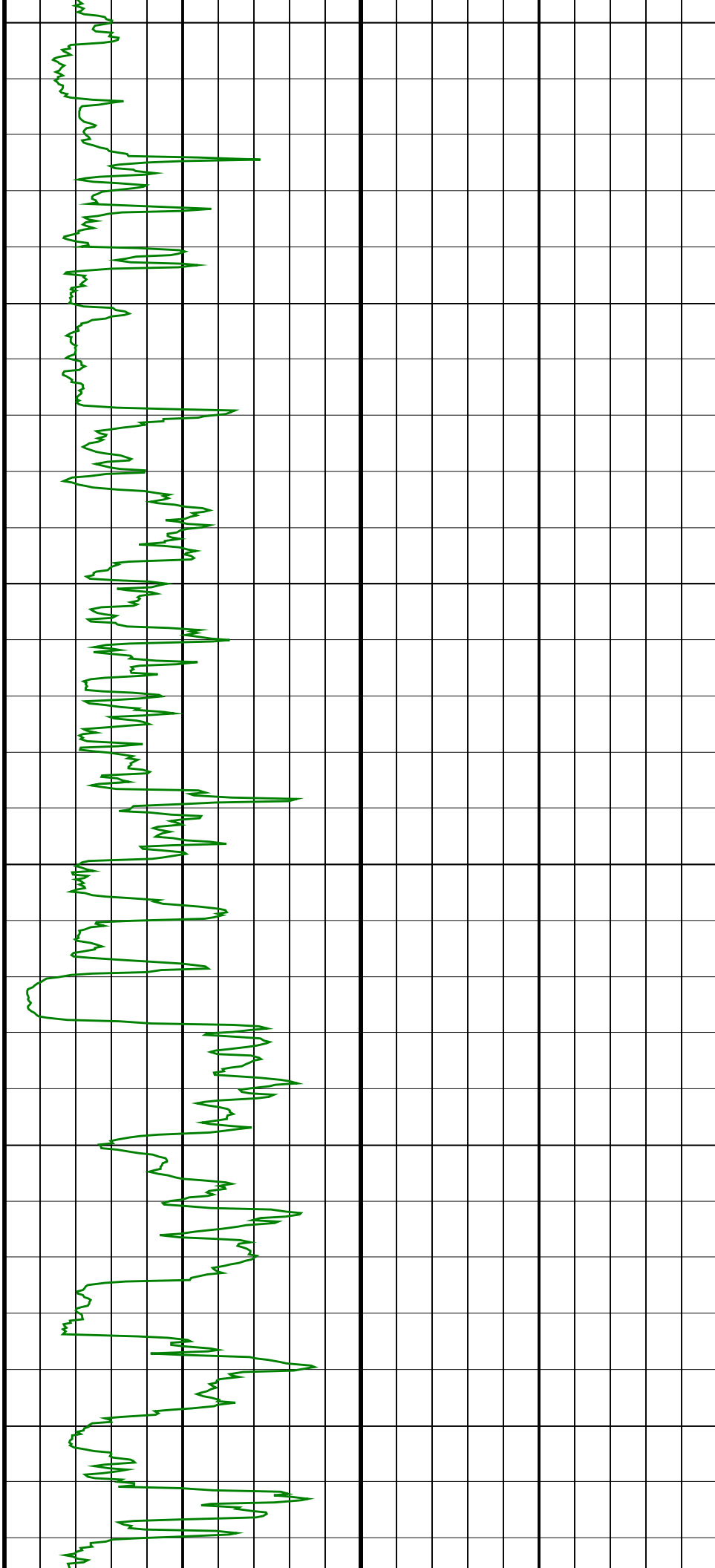


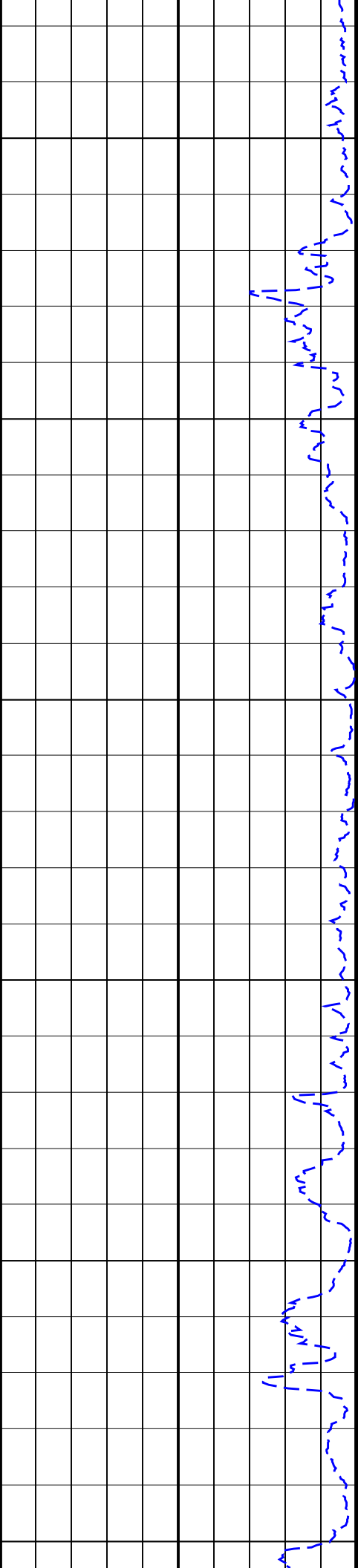


1950  
TVD

2000  
TVD

2050  
TVD



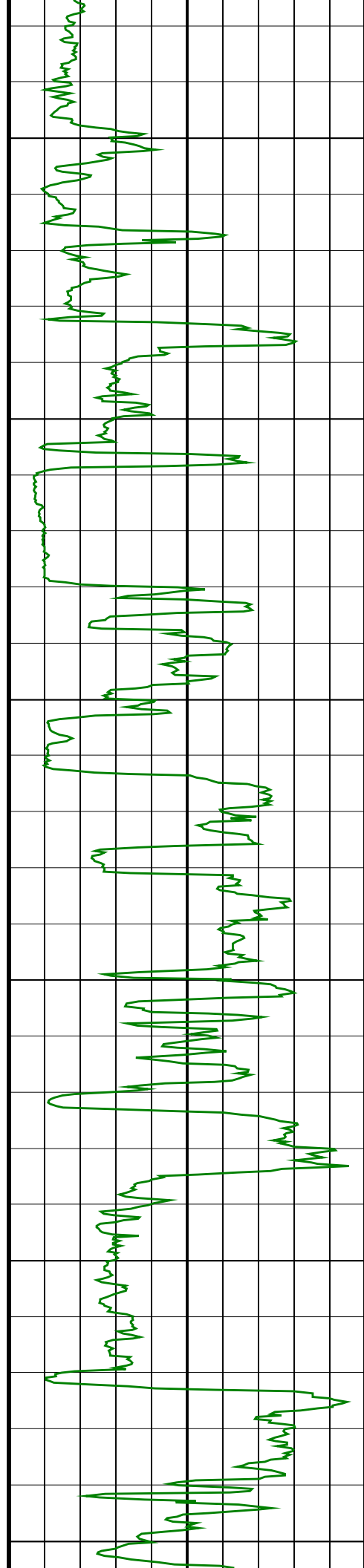


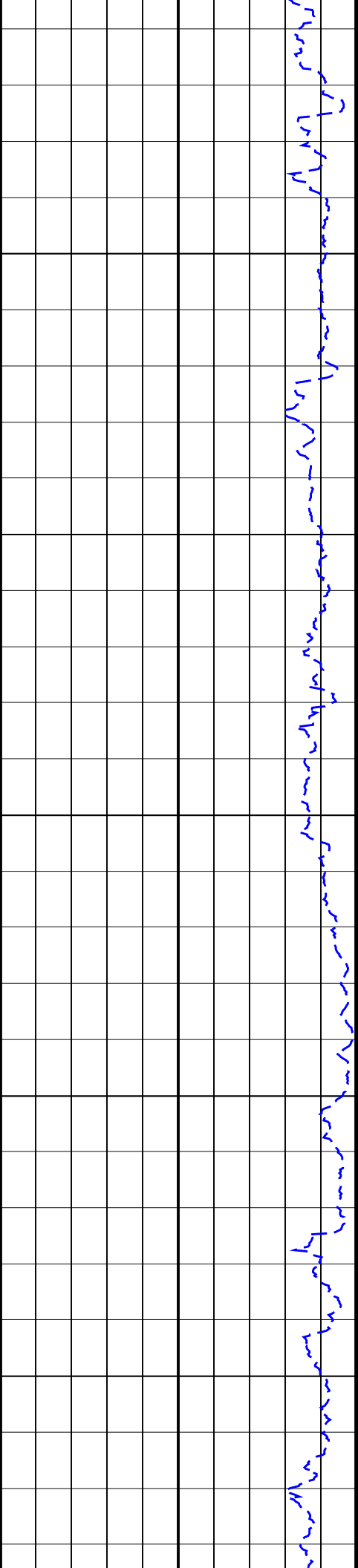
2100  
TVD

2150  
TVD

Run 2

2200  
TVD

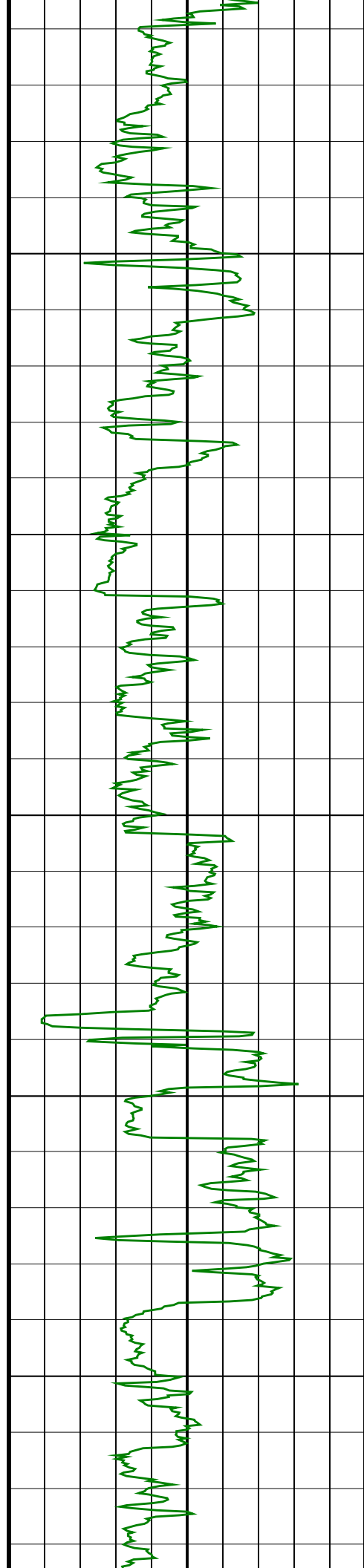




2250  
TVD

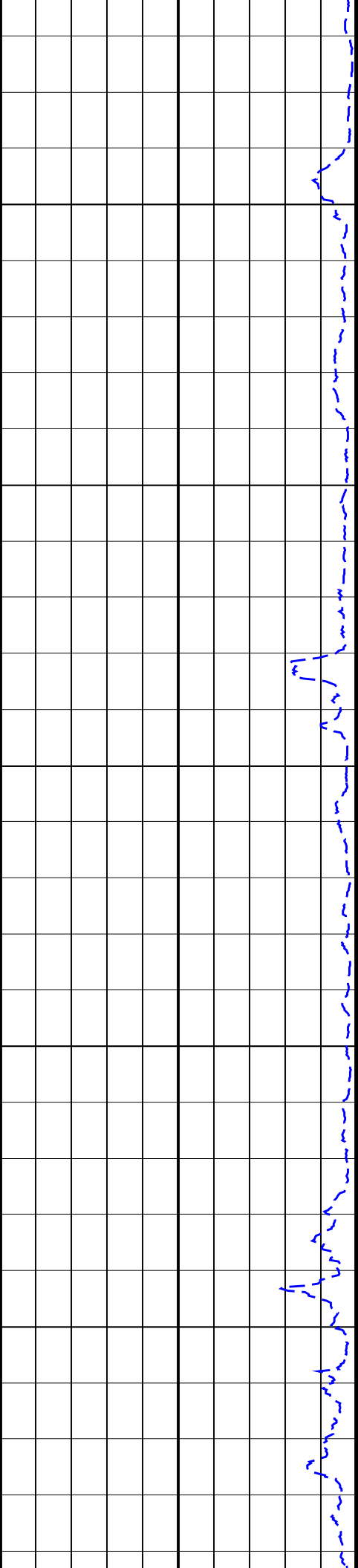
2300  
TVD

2350  
TVD



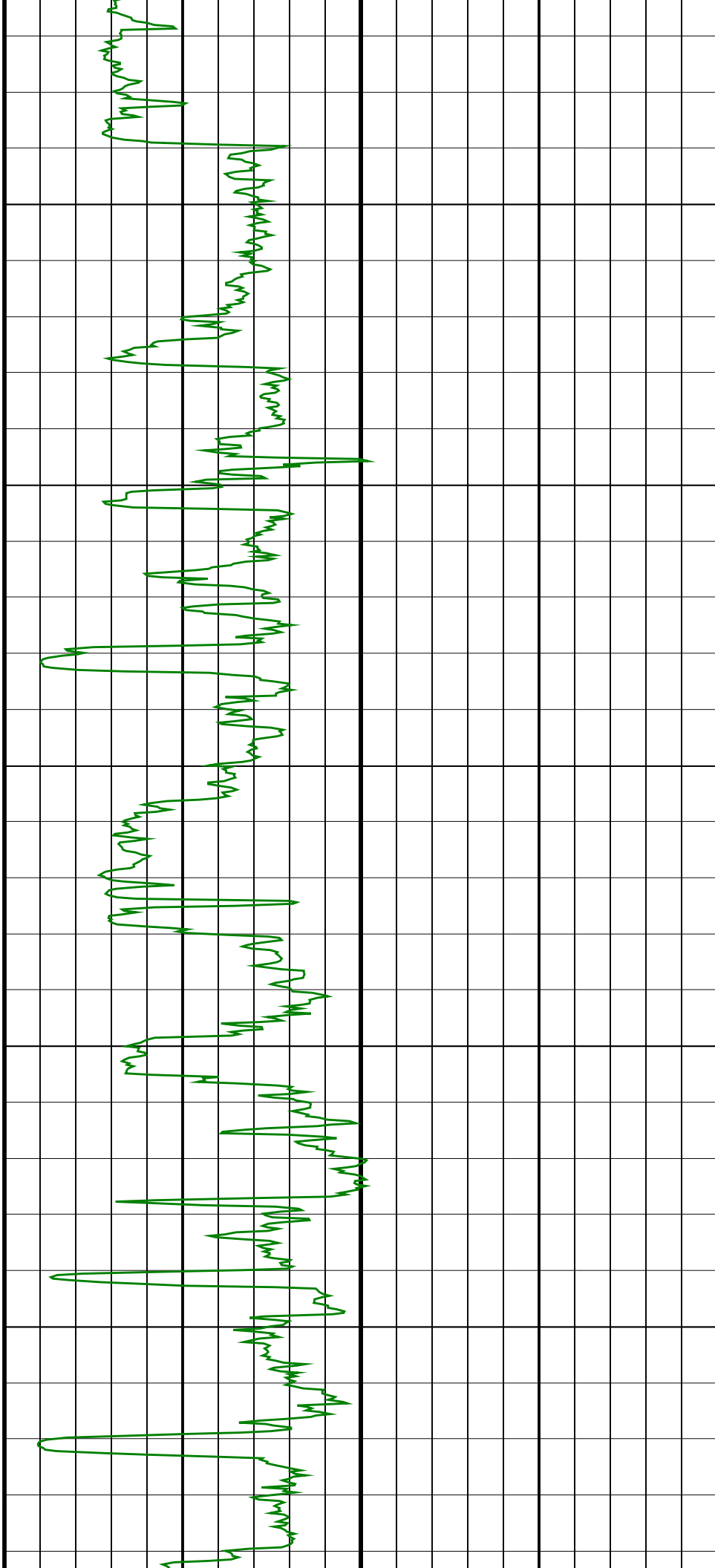


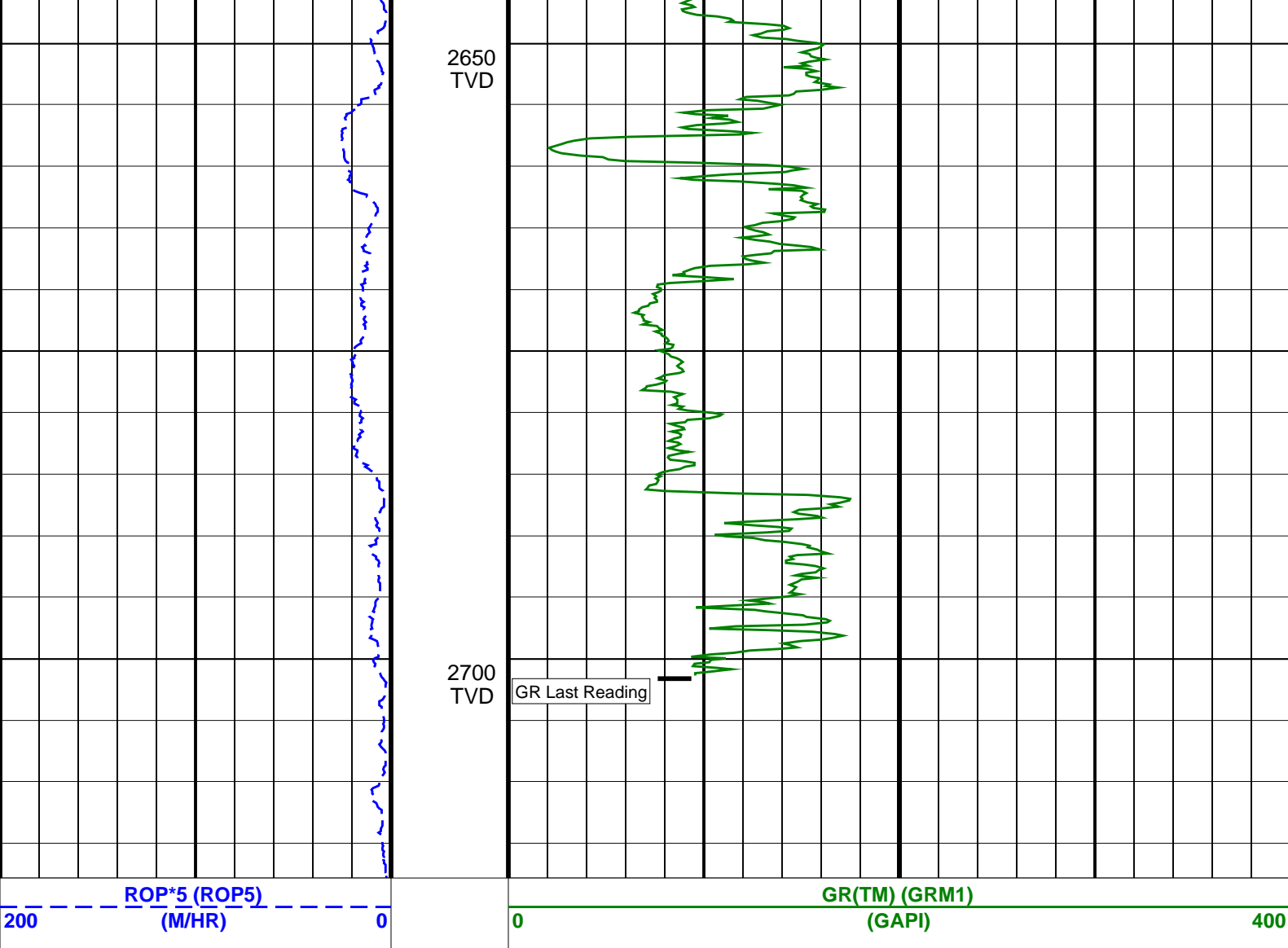




2550  
TVD

2600  
TVD





SCHLUMBERGER

Survey report

13-May-2005 21:57:52

Page 1 of 3

Client.....: ESSO Australia Pty. Ltd.  
Field.....: Bream A

Well.....: BMA A10A  
API number.....:  
Engineer.....: D. Hastie/ L. Johnston

Rig.....: ISDL 453  
STATE.....: Victoria

Spud date.....: 3-May-05  
Last survey date.....: 13-May-05  
Total accepted surveys....: 40  
MD of first survey.....: 2255.00 m  
MD of last survey.....: 3381.00 m

----- Survey calculation methods-----  
Method for positions.....: Minimum curvature  
Method for DLS.....: Mason & Taylor

----- Geomagnetic data -----  
Magnetic model.....: BGGM version 2004  
Magnetic date.....: 05-May-2005  
Magnetic field strength...: 1203.04 HCNT  
Magnetic dec (+E/W-).....: 13.10 degrees  
Magnetic dip.....: -69.03 degrees

----- Depth reference -----  
Permanent datum.....: Mean Sea Level  
Depth reference.....:  
GL above permanent.....: -59.40 m  
KB above permanent.....: 0.00 m  
DF above permanent.....: 32.82 m

----- MWD survey Reference Criteria -----  
Reference G.....: 1000.05 mGal  
Reference H.....: 1203.04 HCNT  
Reference Dip.....: -69.03 degrees  
Tolerance of G.....: (+/-) 2.50 mGal  
Tolerance of H.....: (+/-) 6.00 HCNT  
Tolerance of Dip.....: (+/-) 0.45 degrees

----- Vertical section origin-----  
Latitude (+N/S-).....: -2.12 m  
Departure (+E/W-).....: -0.19 m

----- Platform reference point-----  
Latitude (+N/S-).....: 5738460.340 m  
Departure (+E/W-).....: 567336.310 m

Azimuth from Vsect Origin to target: 238.90 degrees

----- Corrections -----  
Magnetic dec (+E/W-).....: 13.09 degrees  
Grid convergence (+E/W-)..: -0.48 degrees  
Total az corr (+E/W-).....: 13.57 degrees  
(Total az corr = magnetic dec - grid conv)  
Survey Correction Type ...:  
I=Sag Corrected Inclination  
M=Schlumberger Magnetic Correction  
S=Shell Magnetic Correction  
F=Failed Axis Correction  
R=Magnetic Resonance Tool Correction  
D=Dmag Magnetic Correction

Seq #	Measured depth (m)	Incl angle (deg)	Azimuth angle (deg)	Course length (m)	TVD depth (m)	Vertical section (m)	Displ +N/S- (m)	Displ +E/W- (m)	Total displ (m)	At Azim (deg)	DLS (deg/ 10m)	Srvy tool type	Tool Corr (deg)
1	2255.00	41.19	242.58	0.00	1834.08	1192.20	-556.44	-1058.12	1195.51	242.26	0.00	TIP	None
2	2315.54	47.28	232.69	60.54	1877.49	1234.29	-579.15	-1093.58	1237.47	242.09	1.52	MWD	None
3	2344.17	45.11	227.69	28.63	1897.31	1254.70	-592.36	-1109.45	1257.68	241.90	1.47	MWD	None
4	2373.96	44.29	225.55	29.79	1918.49	1275.17	-606.74	-1124.68	1277.91	241.65	0.58	MWD	None
5	2402.84	44.74	224.96	28.88	1939.08	1294.85	-621.00	-1139.06	1297.34	241.40	0.21	MWD	None
6	2431.51	45.68	223.46	28.67	1959.28	1314.53	-635.58	-1153.25	1316.79	241.14	0.50	MWD	None
7	2460.31	45.65	223.26	28.80	1979.41	1334.37	-650.56	-1167.39	1336.42	240.87	0.05	MWD	None
8	2489.08	45.94	223.42	28.77	1999.46	1354.24	-665.56	-1181.54	1356.10	240.61	0.11	MWD	None
9	2517.86	45.95	223.72	28.78	2019.48	1374.19	-680.54	-1195.80	1375.89	240.36	0.07	MWD	None
10	2546.51	45.96	223.53	28.65	2039.40	1394.06	-695.45	-1210.01	1395.63	240.11	0.05	MWD	None
11	2575.02	45.67	223.20	28.51	2059.27	1413.75	-710.31	-1224.05	1415.22	239.87	0.13	MWD	None
12	2603.47	45.59	222.65	28.45	2079.16	1433.31	-725.21	-1237.90	1434.68	239.64	0.14	MWD	None
13	2631.63	45.76	223.11	28.16	2098.84	1452.67	-739.97	-1251.60	1453.98	239.41	0.13	MWD	None
14	2660.31	46.03	222.98	28.68	2118.80	1472.48	-755.02	-1265.66	1473.75	239.18	0.10	MWD	None
15	2688.70	44.89	225.62	28.39	2138.71	1492.06	-769.50	-1279.79	1493.32	238.98	0.77	MWD	None
16	2717.26	43.06	227.01	28.56	2159.26	1511.41	-783.20	-1294.12	1512.67	238.82	0.72	MWD	None
17	2746.89	41.86	228.13	29.63	2181.12	1531.02	-796.70	-1308.89	1532.29	238.67	0.48	MWD	None
18	2775.31	37.64	230.27	28.42	2202.97	1548.92	-808.58	-1322.63	1550.21	238.56	1.56	MWD	None
19	2804.11	36.17	231.41	28.80	2226.00	1566.04	-819.50	-1336.04	1567.34	238.48	0.56	MWD	None
20	2832.83	35.90	232.07	28.72	2249.22	1582.81	-829.96	-1349.30	1584.12	238.40	0.16	MWD	None
21	2861.57	35.65	232.20	28.74	2272.54	1599.49	-840.28	-1362.57	1600.83	238.34	0.09	MWD	None
22	2890.25	35.62	232.73	28.68	2295.85	1616.10	-850.46	-1375.82	1617.45	238.28	0.11	MWD	None
23	2918.77	35.26	233.67	28.52	2319.09	1632.55	-860.36	-1389.06	1633.92	238.23	0.23	MWD	None
24	2947.63	34.56	234.27	28.86	2342.75	1649.01	-870.08	-1402.41	1650.39	238.18	0.27	MWD	None
25	2976.02	34.36	234.66	28.39	2366.16	1665.02	-879.41	-1415.48	1666.42	238.15	0.10	MWD	None
26	3004.83	33.91	235.26	28.81	2390.01	1681.15	-888.70	-1428.72	1682.56	238.12	0.20	MWD	None
27	3033.62	33.44	235.77	28.79	2413.97	1697.09	-897.73	-1441.88	1698.51	238.09	0.19	MWD	None
28	3062.05	32.73	236.30	28.43	2437.79	1712.59	-906.41	-1454.75	1714.02	238.07	0.27	MWD	None
29	3091.19	32.34	236.58	29.14	2462.35	1728.24	-915.07	-1467.81	1729.69	238.06	0.14	MWD	None
30	3119.52	31.89	237.18	28.33	2486.35	1743.29	-923.30	-1480.42	1744.74	238.05	0.19	MWD	None

Seq #	Measured depth (m)	Incl angle (deg)	Azimuth angle (deg)	Course length (m)	TVD depth (m)	Vertical section (m)	Displ +N/S- (m)	Displ +E/W- (m)	Total displ (m)	At Azim (deg)	DLS (deg/ 10m)	Srvy tool type	Tool Corr (deg)
31	3148.77	31.44	237.63	29.25	2511.25	1758.64	-931.57	-1493.36	1760.10	238.04	0.17	MWD	None
32	3176.53	30.52	237.95	27.76	2535.05	1772.93	-939.19	-1505.45	1774.39	238.04	0.34	MWD	None
33	3205.10	29.46	238.40	28.57	2559.79	1787.21	-946.72	-1517.58	1788.67	238.04	0.38	MWD	None
34	3233.55	28.71	239.31	28.45	2584.65	1801.94	-953.87	-1529.42	1802.49	238.05	0.31	MWD	None
35	3262.80	27.93	239.80	29.25	2610.40	1814.91	-960.90	-1541.38	1816.37	238.06	0.28	MWD	None
36	3291.27	25.92	239.94	28.47	2635.78	1827.80	-967.38	-1552.53	1829.25	238.07	0.71	MWD	None
37	3319.70	24.20	240.25	28.43	2661.54	1839.84	-973.38	-1562.97	1841.28	238.09	0.61	MWD	None
38	3348.52	23.60	240.25	28.83	2687.89	1851.52	-979.18	-1573.11	1852.96	238.10	0.21	MWD	None
39	3360.89	23.30	239.72	12.36	2699.23	1856.44	-981.64	-1577.37	1857.87	238.10	0.30	MWD	None
40	3381.00	22.81	238.94	20.11	2717.74	1864.31	-985.65	-1584.14	1865.75	238.11	0.29	Projection to TD	

Company: **ESSO Australia Pty. Ltd.**

**Schlumberger**

Well: **BMA A10A**

Field: **Bream A**

Rig: **ISDL 453**

State: **Victoria**

**Gamma Ray Service  
1:500 True Vertical Depth  
Real Time Log**

